



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,057	10/25/2006	Thierry Hyst	28944/40177	9274
29471 7590 07/14/2009 MCCRACKEN & FRANK LLP 311 S. WACKER DRIVE SUITE 2500 CHICAGO, IL 60606				
EXAMINER WALBERG, TERESA J				
ART UNIT		PAPER NUMBER		
3744				
MAIL DATE		DELIVERY MODE		
07/14/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/582,057

Applicant(s)

HYEST, THIERRY

Examiner

Teresa J. Walberg

Art Unit

3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2009.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-20 is/are pending in the application.
4a) Of the above claim(s) 20 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 10-19 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 30 October 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 08 May 2008 has been entered.

2. Newly submitted claim 20 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: New claim 20 is directed to a process for reducing the height of an existing heat exchanger, classified in class 29, subclass 890.031, while the original claims are directed to a heat exchanger classified in class 165, subclass 95.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 20 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

3. Since claim 20 has been withdrawn from consideration, it has not been examined on the merits at this time. However, the examiner notes that the subject matter of claim 20 does not appear to have been present in the application as originally filed, and thus

appears to be new matter. Note that a continuation in part application cannot be filed in the form of a Request for Continued Examination.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 10-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otake (4,304,295) in view of Ben-Dosa (5,086,833).

Otake discloses a heat exchanger (Fig. 1) including an enclosure provided with a plurality of tubes (1) in which a heat transfer fluid circulates, the fluid conveying cleaning balls (col. 1, lines 9-18), feed and outlet collectors joined to the enclosure via a first and second side wall of the enclosure opposite each other (Fig. 1), the outlet collector (5,7) being in the form of a single piece having a first portion forming a flow converger (where the tubes 1 join the manifold 5) and a second portion forming a nozzle (the unitary connection pipe between the manifold and the ball separator 7) joined to the flow converger (Figs. 2 and 3), an upstream mouth (where the tubes 1 join the manifold 5) that directly joins the outlet collector (5) to the enclosure (1), the outlet collector (at the upper portion of 5) having a downstream mouth by which it is joined to a heat transfer fluid discharge pipe (the lower portion of 5), a separation device (7) placed in the

second portion of the outlet collector in order to separate the cleaning balls from the fluid, the device including at least two pairs of grids (15 in Fig. 4) mounted to rotate on a spindle (21), the spindles (21) being pair-wise parallel to one another, the separation device (7) forming a filtering structure that converges on a recovery device placed in the second portion to recover the cleaning balls (11, 9), the grids having a W shaped profile converging on the recovery device (see embodiment of Fig. 6), the grid having a row of spaced apart parallel blades (16 in Fig. 5), a plurality of coaxial spacers together form the spindle (21) for supporting each grid (Fig. 4).

Otake discloses a heat exchanger having the claimed structure with the exception of the first portion having a rectangular cross section, the central blades of the W being longer than the outer blades, the cross section of the upstream mouth being greater than that of the downstream mouth.

However, it is conventional in the art to give heat exchanger manifolds a rectangular cross section. It would have been obvious to one of ordinary skill in the art to give the upper portion of the manifold 5 of Otake a rectangular cross section, or any other desired cross section, based on the intended used of the device and the space available for the device installation. It would have been obvious to one of ordinary skill in the art to give the central blades of the ball filtering grid greater length, the motivation being to reduce the blocking of the central portion of the heat exchanger outlet flow.

Ben-Dosa discloses a heat exchanger (Fig. 1) including an enclosure (at 2) with a plurality of tubes (4) in which a heat transfer fluid circulates, the fluid conveying cleaning balls (14), the cross section of an upstream mouth (where the tubes 4 join the manifold 12) of the outlet collector (12) being greater (see Fig. 1) than that of the downstream mouth of the outlet collector (below the portion where the tubes join the manifold). It would have been obvious in view of Ben-Dosa to use a manifold with mouths having a larger cross section at the upstream end than the downstream end in the heat exchanger of Otake, the motivation being to enable easier connection of the manifold to the tubes at the upstream end and to minimize the size of the tube in order to reduce the amount of tube material used at the downstream end.

6. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otake (4,304,295) in view of Ben-Dosa (5,086,833) and further in view of Koller (4,385,660).

Otake in view of Ben-Dosa discloses a heat exchanger having the claimed structure with the exception of a system to cause the grids to rotate when the pressure difference is greater than a predetermined value. However, Koller discloses a system for causing the grids to rotate (col. 7, lines 47-50) and teaches actuating this rotation in response to "an increase of ... resistance to flow" (col. 5, lines 40-52). It would have been obvious in view of Koller to rotate the grids of Otake in view of Ben-Dosa for cleaning in response to pressure

difference, the motivation being to prevent clogging of the outlet flow path of the heat exchanger.

7. Applicant's arguments filed 08 May 2009 have been fully considered but they are not persuasive.

Applicant argues that the claim requires that the separator is placed in the second portion of the outlet collector and not in the discharge pipe, but that Otake shows the separator in the discharge pipe and not in an outlet collector. However, the area in which Otake shows the separator can be considered to be part of the outlet collector, with the discharge pipe being the portion below the separator.

Applicant argues that Otake is directed to an add-on device. However, whether the ball separator is part of the original device or is added to the device at a later time is not considered to make a difference in the structure of the device.

Applicant argues that the structure of Otake would not be suitable for placement in the outlet collector and one of ordinary skill would recognize the deficiencies of Otake and not be lead to a device as claimed. However, the location disclosed by Otake for the separator does not appear to differ significantly from the location disclosed in the present application and can be considered to be part of the outlet collector. It is unclear what is being referred to by the phrase "the deficiencies of Otake". If there are significant differences in

the structure and/or functioning of present claims compared to Otake, applicant invited to provide additional explanation of the specifics of these differences.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Teresa J. Walberg whose telephone number is 571-272-4790. The examiner can normally be reached on M-F 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Teresa J. Walberg/
Primary Examiner, Art Unit 3744

/TW/